

WHAT IS CLAIMED IS:

1. An apparatus for controlling a position of a screen pointer for an electronic device having a display screen, the apparatus comprising:

a touchpad including a touch-sensitive surface on which a pointing object may be placed, the touchpad configured to generate position signals indicative of positions of the pointing object on the touch-sensitive surface; and

a controller for generating a first set of movement data based on the position signals, the first set of movement data indicative of motion of the pointing object across the touch-sensitive surface, the controller configured to generate a second set of movement data when the pointing object is removed from the touch-sensitive surface, thereby leaving the touch-sensitive surface free from contact by a pointing object, the second set of movement data indicative of motion of the pointing object across the touch-sensitive surface prior to removal of the pointing object.

2. The apparatus of claim 1, wherein the second set of movement data is based on an exponential decay.

3. The apparatus of claim 2, wherein characteristics of the exponential decay are user specifiable.

4. The apparatus of claim 2, wherein characteristics of the exponential decay are based on a user specifiable time constant.

5. The apparatus of claim 1, wherein characteristics of the second set of movement data are user definable.

6. The apparatus of claim 5, wherein characteristics of the second set of movement data are defined by a graphical curve provided by a user.

7. The apparatus of claim 5, wherein characteristics of the second set of movement data are defined by a mathematical function provided by a user.
8. The apparatus of claim 1, wherein characteristics of the first set and second set of movement data are user definable.
9. The apparatus of claim 1, wherein the controller is configured to stop generating the second set of movement data when the pointing object is replaced on the touch-sensitive surface.
10. The apparatus of claim 1, wherein the second set of movement data is based on inertial properties of a mechanical screen-pointing device.
11. A method of controlling a position of a screen pointer for an electronic device having a screen display, the method comprising:
 - generating position signals indicative of positions of a pointing object placed against a touch-sensitive surface;
 - generating a first set of motion data based on the position signals, the first set of motion data indicative of motion in orthogonal axes across the touch-sensitive surface by the pointing object;
 - adjusting the position of the screen pointer in accordance with the first set of motion data;
 - generating a second set of motion data based on at least a subset of the first set of motion data after the pointing object is removed from the touch-sensitive surface leaving the touch-sensitive surface free from contact by a pointing object; and
 - adjusting the position of the screen pointer in accordance with the second set of motion data after the pointing object is removed from the touch-sensitive surface.

12. The method of claim 11, wherein the second set of motion data is based on an exponential decay.
13. The method of claim 12, and further comprising:
receiving motion definition data from a user specifying characteristics of the exponential decay.
14. The method of claim 12, and further comprising:
receiving time constant data from a user, the time constant data defining characteristics of the exponential decay.
15. The method of claim 11, and further comprising:
receiving motion definition data from a user specifying characteristics of the second set of motion data.
16. The method of claim 15, wherein the motion definition data is a graphical representation of desired characteristics of the second set of motion data.
17. The method of claim 15, wherein the motion definition data is a mathematical function.
18. The method of claim 11, and further comprising:
receiving motion definition data from a user specifying characteristics of the first set and second set of motion data.
19. The method of claim 11, and further comprising:
stopping motion of the screen pointer when the pointing object is replaced on the touch-sensitive surface.
20. A computer-readable medium having computer-executable instructions for performing a method of generating movement data for controlling a position

of a screen pointer for an electronic device having a display and a touchpad, the touchpad generating position data indicative of positions of a pointing object on a touch-sensitive surface of the touchpad, comprising:

- identifying when a loss of contact occurs between the pointing object and the touch-sensitive surface;

- receiving a first set of movement data, the first set of movement data indicative of relative movement between the pointing object and the touch-sensitive surface prior to the loss of contact; and

- generating a second set of movement data based on the first set of movement data when a loss of contact occurs between the pointing object and the touch-sensitive surface, the second set of movement data causing a gradual decrease in a velocity of the screen pointer.